CS 314: Data Structures

February 7, 2022

Sam's Section

Slides available at: www.cs.utexas.edu/~slaberge

MathMatrix

- W.r.t. Style:

  - Make instance variables private

  - Use an auto-formatter!

  - Watch out for unnecessary repeated computations inside of loops

- W.r.t Experiments:

  - Answer all the questions!

  - It's **ok** if your timing data doesn't support your Big O analysis of a method! Remember, Big O is a big simplification!

Formatting

- Again, many style issues can be avoided by using your IDE's auto-formatter:

	Windows/Linux	macOS
IntelliJ	`Ctrl+Alt+L`	`Command+Option+L`
Eclipse	`Ctrl+Shift+F`	`Command+Shift+F`
VSCode	`Shift+Alt+L`	`Shift+Option+F`

Section Problem

Polymorphism & Inheritance

Name Surfer

Due Thursday, February 10

Advice for NameSurfer

- On the assignment page, you'll see there are certain conditions where you'll want to skip a line of input

  - If a line of input is to be skipped, **DON'T** create a `NameRecord` for it! That wastes space!

  - See Piazza Post @247 (it's pinned)

```java
public static NameRecord buildRecord(String input, /* ... */) {
    // Check conditions for input
    if(inputIsValid) {
        // You can make constructor private so that this
        // is the only way of making NameRecord objects
        return new NameRecord(/* ... */);
    } else {
        return null;
    }
}
```

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Advice for NameSurfer

- Be VERY careful of magic numbers

  - Especially 10, 1000, 1001

  - All numbers other than -1, 0, 1, 2 OR which have a special meaning should be constants

- Sort your data as few times as possible

  - Sorting is (relatively) slow, don't do it more than you have to!

- And, of course, use your auto-formatter!

Extra Problem

GenericList & NameRecords